The Art and Science of Depiction

Limitations of the Medium, compensation or accentuation

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Plan of the next sessions

• The picture is flat
• The viewpoint is unique
• The image is finite, it has a frame
• The picture is static
• The contrast is limited
• The gamut (palette) is limited

The image is flat

Surface-based

• Visible surfaces, organization
• Distance, orientation

Depth cues

• Binocular
• Monocular
• Dynamic
• Pictorial
• Unconscious inference

Depth cues

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<th>INFORMATION SOURCE</th>
<th>Optic</th>
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</table>
**Convergence**

- Few meters

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**Stereovision**

- Different image left/right eye

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**Panum fusion**

- Double Images (Uncrossed Disparity)
- Double Images (Crossed Disparity)
- Panum's Area
- Horopter
- Left Eye
- Right Eye

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**Stereopsis**

- Both Eyes
- Left Eye Only
- Neither Eye
- Right Eye Only
- Both Eyes
- Occluded in Right Image
- Occluded in Left Image

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**Stereo**

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**Random dot stereogram**
Limitations: Flatness

**Pseudoscope**
- Pictorial cues are stronger than stereo

**Accommodation**
- Close distance (< 3 meters)

**Accommodation**
- Blurriness
- But no proprioceptive information
- Related to aerial perspective

**Parallax**
- Movement

**Pictorial cues**
- Occlusion
- Size
- Position relative to the horizon
- Convergence of parallels, linear perspective
- Shading, shadow
- Texture gradient
- Aerial perspective
Occlusion

- Figure-ground...

Relative size
**Familiar size**

Limitations: Flatness

**Familiar size – dissonance**

- Magritte

Limitations: Flatness

**Position relative to the horizon**

Limitations: Flatness
Limitations: Flatness

Position relative to the horizon

- Bruegel

Convergence of parallels

- Caillebotte

Linear perspective

Linear perspective
**Shading**

- Chiaroscuro
- Da Vinci

**Lighting assumption & reversal**

- We assume that the light is above

**Lighting assumption & reversal**

- faces

**Lighting assumption & reversal**

- Lucien Clergue, Camargue, 1940
Limitations: Flatness

Shadow
- David

Shadow
- Caravaggio

Texture gradient
- Constable

Texture gradient
- Leonardo Da Vinci

Aerial perspective
- Leonardo Da Vinci
Aerial perspective

- Constable

Aerial perspective

- Delacroix
- Saturation

Aerial perspective

- Pissaro

Inverted Aerial perspective

- Nash

Aerial perspective

- Darker colors tend to recede
- Rembrandt
**Planes of light**

- Goya
- Darker colors usually recede
- Makes picture dynamic

**Planes of light**

- Lighting

**Planes of light**

- Vermeer

**Grouping**

- Aerial perspective
- Depth of field
- Relative size
  - Grouping with respect to one property results in grouping by distance

**Perspective**

**Monet**
Limitations: Flatness

Occlusion & horizon

Counter-example

• De Chirico

Depth cues and art history